NET ZERO NOW

Climate Change Quiz

19:20-19:35

1. How does today's climate change (i.e. since the Industrial Revolution) compare to previous changes in climate?

a. Climate change has always happened and this time is exactly the same as the others
b. The levels of greenhouse gases currently in the atmosphere have not been seen for millennia
c. The increased levels of greenhouse gases in the atmosphere have increased much faster
d. Both b and c

2. Methane and Carbon Dioxide are both two key greenhouse gases. How do they differ?

a. Methane is more potent (stronger) than carbon dioxide but stays in the atmosphere for less time
b. Carbon dioxide is more potent than methane but stays in the atmosphere for less time
c. Methane is more potent than carbon dioxide and stays in the atmosphere longer
d. Carbon dioxide is more potent than methane and stays in the atmosphere longer

3. What does net zero mean?

a. When no greenhouse gases are being emitted into the atmosphere
b. When trees are planted to absorb greenhouse gases
c. When the greenhouse gases emitted into the atmosphere are balanced with the greenhouse gases being removed from the atmosphere
d. When the transport sector is completely electrified

4. What is embodied carbon?

a. The carbon emissions that you as an individual produce
b. The carbon emitted from a product when you use it
c. The carbon emitted when sourcing materials, manufacturing and distributing a product
d. The carbon emissions associated with animals (for example, emitting methane)

5. Is reforestation (planting more trees) useful for absorbing carbon dioxide from the atmosphere?

a. Yes, but only when it's done to support the biodiversity of the local environment
b. Yes, but it's essential to protect rainforests from deforestation alongside reforestation projects.
c. No, we must protect trees from deforestation instead of reforestation projects
d. No, trees do not absorb enough carbon dioxide to be significant

6. In 2019, which sector produced the highest emissions in the UK?

a. Transport
b. Business
c. Residential
d. Energy
e. Agriculture
f. Waste management

7. Which sector has seen the largest proportional decrease in emissions in the UK between 1990 and 2019?

a. Transport
b. Business
c. Residential
d. Energy
e. Agriculture
f. Waste management

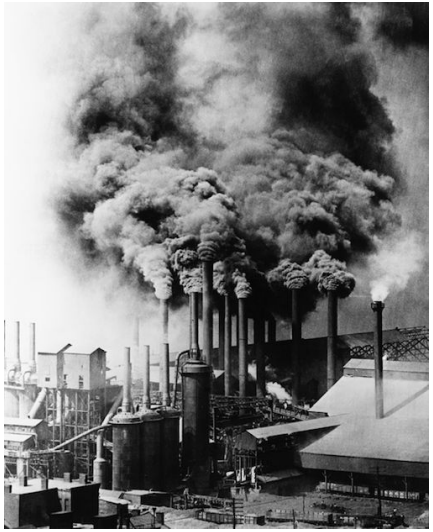
Quiz Answers

19:20-19:35

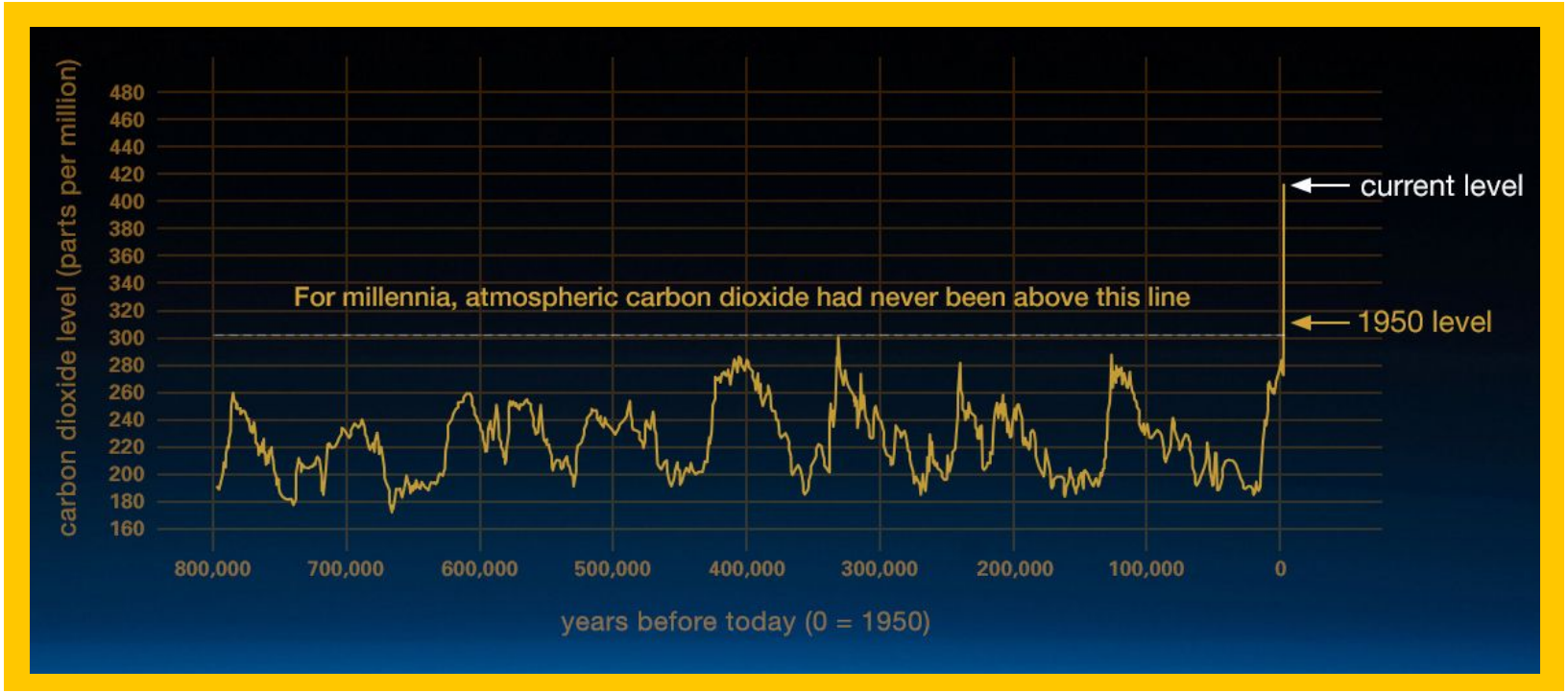
1. How do today's changes in climate (i.e. since the Industrial Revolution) compare to previous changes in climate?

d. Both b and c

- **The levels of greenhouse gases currently in the atmosphere have not been seen for millennia.**
- **The increased levels of greenhouse gases in the atmosphere have increased much faster.**



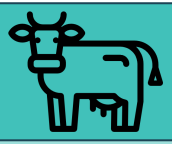
https://climate.nasa.gov/evidence/
https://skepticalscience.com/climate-change-little-ice-age-medieval-warm-period.htm



https://climate.nasa.gov/evidence/
https://skepticalscience.com/climate-change-little-ice-age-medieval-warm-period.htm

2. Methane and Carbon Dioxide are both two key greenhouse gases. How do they differ?

a. **Methane is more potent (stronger) than carbon dioxide but stays in the atmosphere for less time.**

	Methane 	Carbon Dioxide 
Definition	Methane is a major greenhouse gas with the chemical formula CH_4	Carbon dioxide is a major greenhouse gas that has the chemical formula CO_2
Human Sources	Enters the atmosphere mainly through burning fossil fuels and animal agriculture	Enters the atmosphere mainly through burning fossil fuels
Lifespan in atmosphere	About a decade	65-80%: 20-200 years The rest: much much longer
20 yr GWP*	84-87	1
100 yr GWP*	28-36	1
Proportion of global GHG emissions	17.3%	74.4%

*Global Warming Potential

Adapted from: https://www.differencebetween.com/difference-between-methane-and-carbon-dioxide/

3. What does net zero mean?

c. When the greenhouse gases emitted into the atmosphere are balanced with the greenhouse gases being removed from the atmosphere.

- **'Net':** enables us to balance emissions.
- **Absolute Zero**: when no greenhouse gases are being emitted. (a)
- **Planting trees** and **electrifying transport networks** are important elements of achieving net zero (b and d)

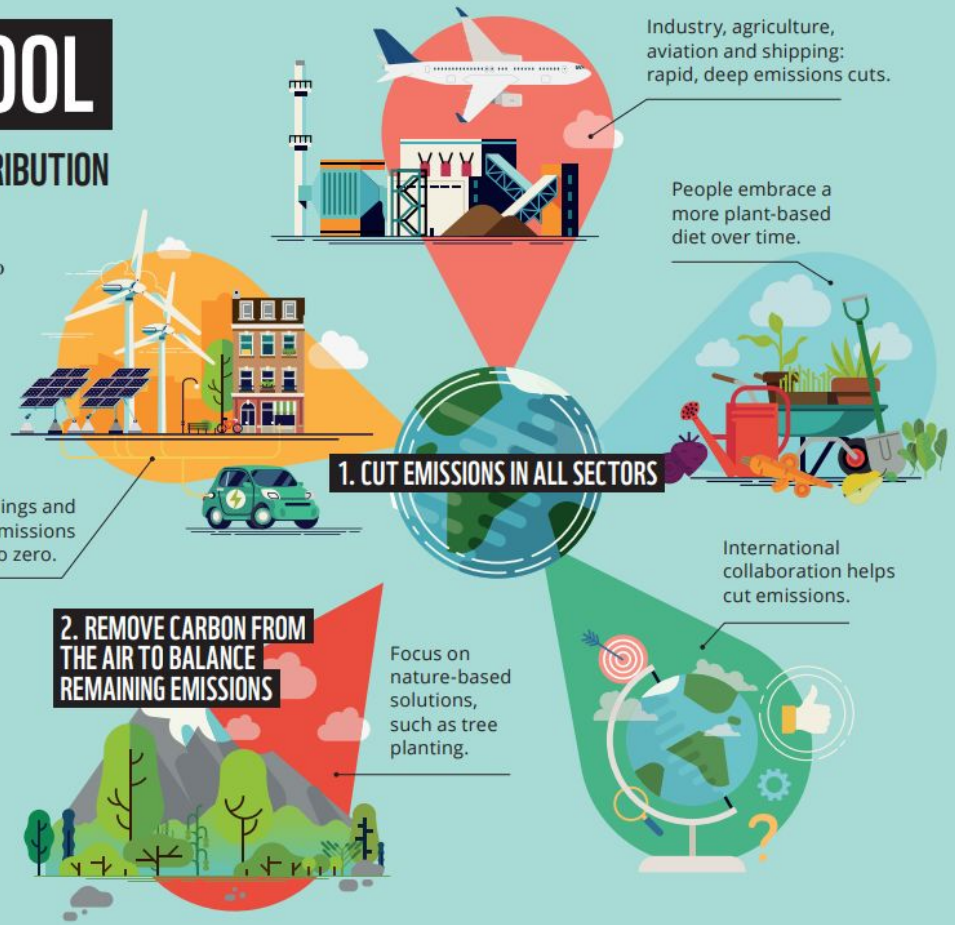
https://netzeroclimate.org/what-is-net-zero/

KEEPING IT COOL

HOW THE UK CAN END ITS CONTRIBUTION TO CLIMATE CHANGE BY 2045

To help limit global temperature increases to 1.5°C, the UK must reduce greenhouse gas emissions to net zero. WWF's report, *Keeping it Cool*, provides a pathway to achieve that by 2045.

wwf.org.uk/keepingcool

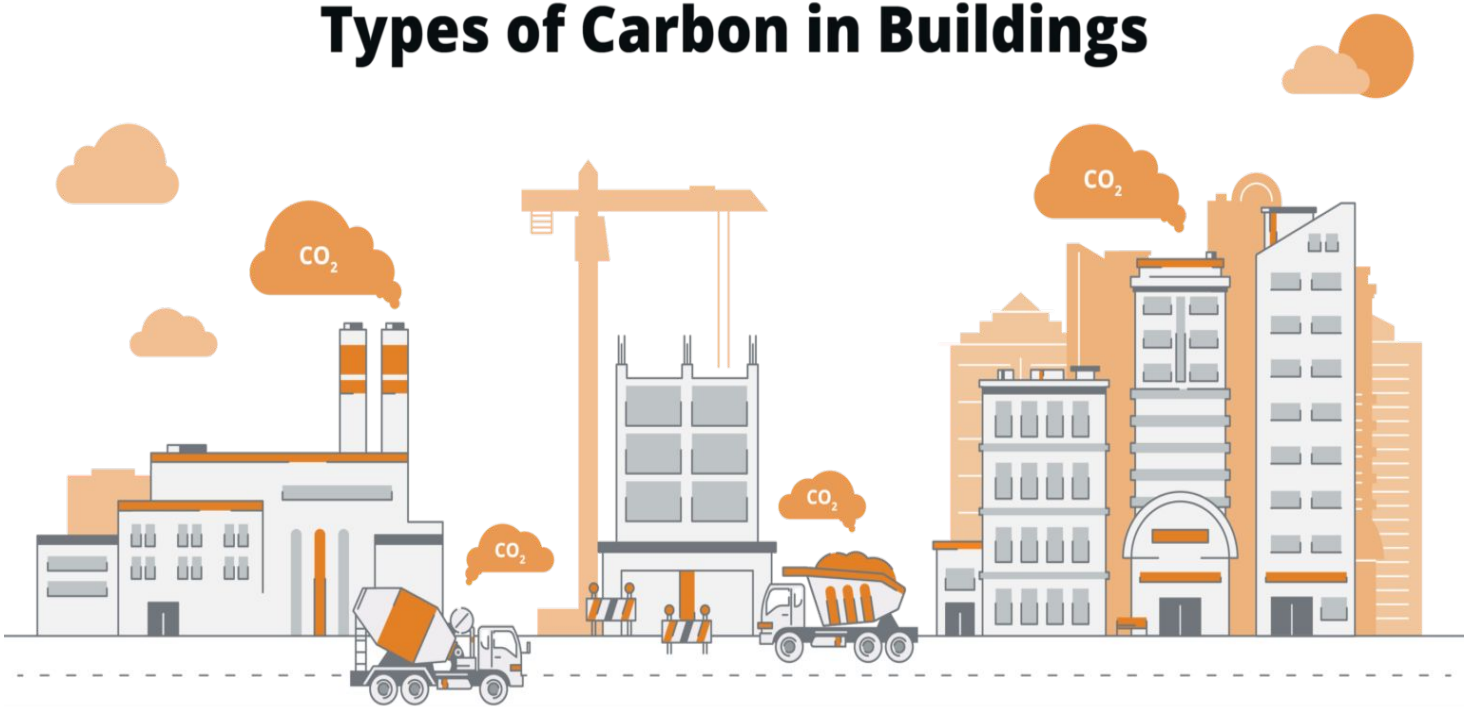


WWF | FOR YOUR WORLD

4. What is embodied carbon?

c. The carbon emitted when sourcing materials, manufacturing and distributing a product.

Types of Carbon in Buildings



Embodied Carbon
The emissions from manufacturing, transportation, and installation of building materials.

Operational Carbon
The emissions from a building's energy consumption.

https://www.carboncure.com/concrete-corner/what-is-embodied-carbon/

5. Is reforestation (planting more trees) useful for absorbing carbon dioxide from the atmosphere?

b. Yes, but it's essential to protect rainforests from deforestation alongside reforestation projects.

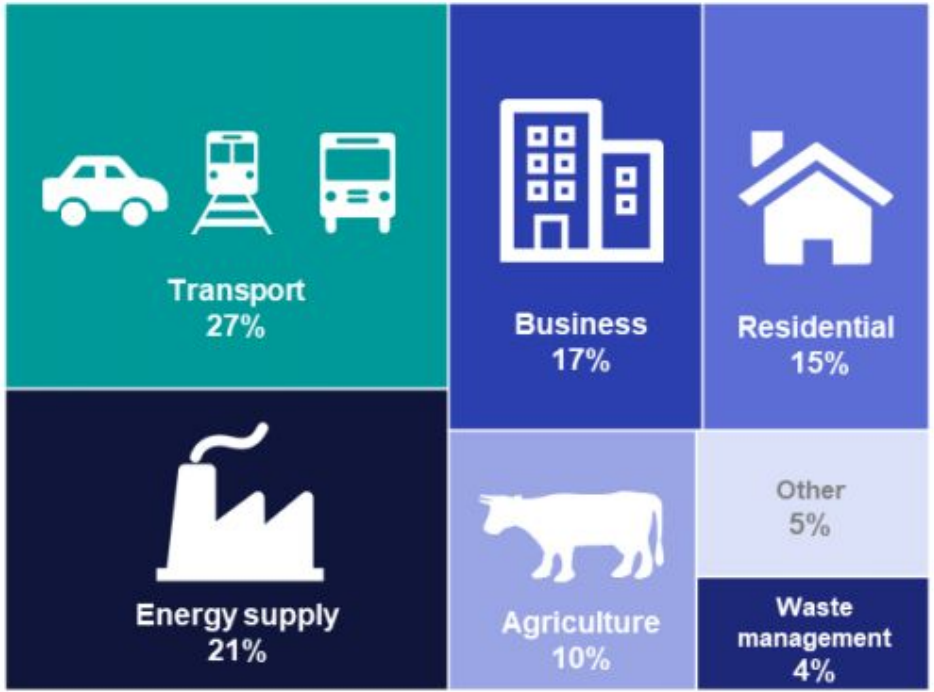
- Rainforests slow to develop, absorb more CO_2
- Larger, older trees absorb more CO_2
- Supporting biodiversity is vital to support the local ecosystem

https://www.youtube.com/watch?v=4jvI4o9-op8

6. In 2019, which sector produced the highest emissions in the UK?

a. **Transport**

Transport was the largest emitting sector in the UK in 2019, responsible for over a quarter of emissions



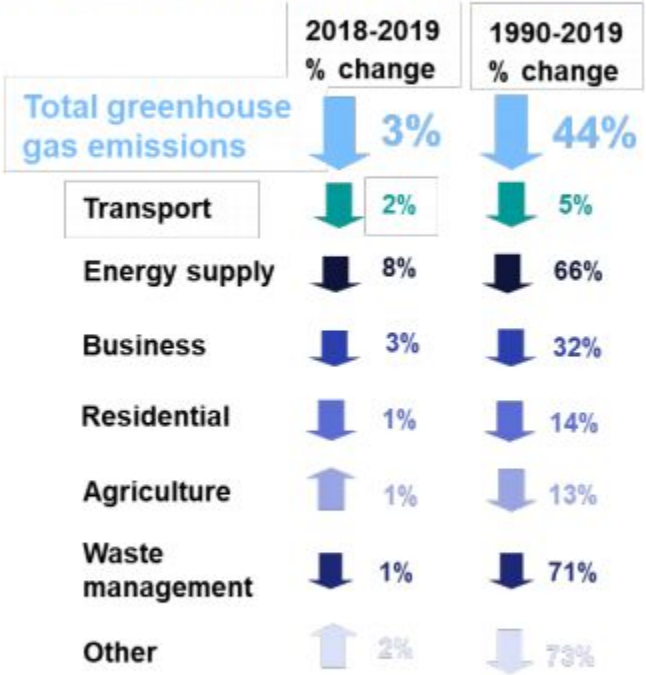
Others include Public, Industrial Processes and the Land Use, Land Use Change and Forestry (LULUCF) sectors. The percentages may not sum to 100% due to rounding.

https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-to-2019

7. Which sector has seen the largest proportional decrease in emissions in the UK between 1990 and 2019?

f. Waste management

Energy supply delivered the largest reduction in emissions in the UK from 2018 to 2019, as power stations continued to reduce coal use



The energy supply sector has accounted for around half of the overall reduction in UK emissions since 1990, at which point it accounted for 34% of all emissions in the UK. It was the largest emitting sector until its emissions fell below transport in 2016.

https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-to-2019